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Substitute for form 1449A/PTO
INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

				Complete If Known	
				Application Number	10/066,095
				Filing Date	1/31/2002
				First Named Inventor	Steven Teig, et al.
				Group Art Unit	2825
				Examiner Name	Brandon Bowers
Sheet	1	of	1	Attorney Docket Number	SPLX.P0074

FOREIGN PATENT DOCUMENTS

Examiner Initials	Cite No. ¹	Foreign Patent Document Office ² Number ³	Kind Code ⁴ (if known) ⁵	Date of Publication MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
B3	1.	JP	02-262354	10-25-1990	Kuribayashi, Mototaka		

NON PATENT LITERATURE DOCUMENTS

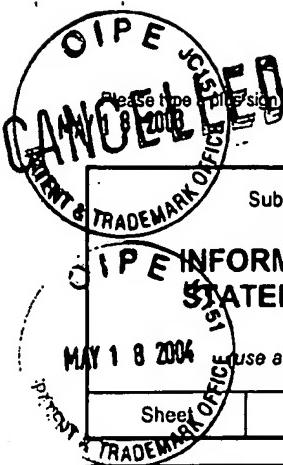
Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶
B3	2.	CHO J.D., Wiring Space and Length Estimation in Two-Dimensional Arrays, May 2000, Computer-Aided Design of Integrated Circuits and Systems, IEEE Transactions on, VOL. 19, Iss. 5, pp. 612-615.	
B3	3.	CONG J. et al., DUNE – A Multilayer Gridless Routing System, May 2001, IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, vol 20, iss. 5, pp. 633-647.	
B3	4.	DION J. et al., Contour: A Tile-based Gridless Router, March 1995, Digital Western Research Laboratory, research Report 95-3, pp. 1-22.	
B3	5.	JUTTNER et al., "Lagrange Relaxation Based Method for the QoS Routing Problem, IEEE, Apr. 26, 2001, pp 259-268.	
B3	6.	SCHULZ U., Hierarchical Physical Design System, CompEuro '89, VLSI and Computer Peripherals. VSLI and Microelectronic Applications in Intelligent Peripherals and their Interconnection Networks. Proceedings, 8-12 May 1989, pp. 5/20 - 5/24.	
B3	7.	TSENG H-P. et al., A Gridless Multilayer Router for Standard Cell Circuits Using CTM Cells, Oct. 1999, IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, vol 18, iss. 10, pp. 1462-1479.	

Examiner Signature		Date Considered	12/13/04
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Substitute for form 1449A/PTO I P E INFORMATION DISCLOSURE STATEMENT BY APPLICANT MAY 18 2004 (use as many sheets as necessary)				Application Number	10/066,095
Sheet	1	of	9	Filing Date	1/31/2002
				First Named Inventor	Steven Teig et al.
				Group Art Unit	3628 2825
				Examiner Name	Cheneinski, S. <i>Bowers</i>
				Attorney Docket Number	SPLX.P0074

U.S. PATENT APPLICATIONS

Examiner Initials	Cite No. ¹	U.S. Patent Application		Name of Patentee or Applicant of Cited Document	Date of Filing MM-DD-YYYY	Related Application Data if any
		Serial Number	Attorney Docket Number			
BB	1.	10/066,060	SPLX.P0072	Steven Teig	01-31-2002	Application filed on the same date, with same specification and drawings, but with different summary and abstract.
BB	2.	10/066,160	SPLX.P0073	Steven Teig	01-31-2002	Application filed on the same date, with same specification and drawings, but with different summary and abstract.
BB	3.	10/066,047	SPLX.P0078	Steven Teig et al.	01-31-2002	Application filed on the same date, with same specification and drawings, but with different summary and abstract.
BB	4.	10/061,641	SPLX.P0079	Steven Teig et al.	01-31-2002	Application filed on the same date, with same specification and drawings, but with different summary and abstract.
BB	5.	10/066,094	SPLX.P0080	Steven Teig et al.	01-31-2002	Application filed on the same date, with same specification and drawings, but with different summary and abstract.
BB	6.	10/076,121	SPLX.P0081	Steven Teig et al.	02-12-2002	CIP of 10/066,094..
BB	7.	10/062,995	SPLX.P0105	Steven Teig et al.	01-31-2002	Application filed on the same date, with same specification and drawings, but with different summary and abstract.
BB	8.	10/066,102	SPLX.P0106	Steven Teig	01-31-2002	Application filed on the same date, with same specification and drawings, but with different summary and abstract.
BB	9.	10/066,187	SPLX.P0133	Steven Teig et al.	01-31-2002	Application filed on the same date, with same specification and drawings, but with different summary and abstract.
BB	10.	10/286,584	CDN.P0037	Steven Teig	10-31-2002	
BB	11.	10/335,087	CDN.P0038	Steven Teig et al.	12-31-2002	
BB	12.	10/335,239	CDN.P0039	Steven Teig et al.	12-31-2002	

Examiner Signature	<i>Brandon Bowers</i>	Date Considered	12/13/04
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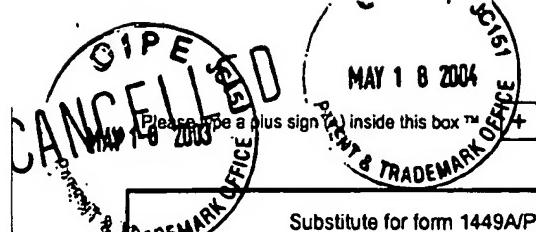
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Sheet

2

of

9

Application Number

10/066,095

Filing Date

1/31/2002

First Named Inventor

Steven Teig et al.

Group Art Unit

3628 2825

Examiner Name

Chencinski, S.

Bower

Attorney Docket Number

SPLX.P0074

U.S. PATENT APPLICATIONS

13. 10/335,086 CDN.P0040 Steven Teig et al. 12-31-2002

FOREIGN PATENT DOCUMENTS

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		Office ³	Number ⁴ (if known) ⁵				
	14.	JP	11-296560	10-29-1999	Matsumoto et al.	with English translation of Abstract;	
Bb	15.	JP	2000-082743	03-21-2000	Igarashi et al.	with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	✓
Bb	16.	JP	64-15947	01-19-1989	Ouchi	with English translation of Abstract;	
Bb	17.	JP	03-173471	07-26-1991	Tawada et al.	with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	✓
Dp	18.	JP	04-000677	01-06-1992	Fujiwara et al.	with English translation of Abstract;	
Dp	19.	JP	05-102305	04-23-1993	Sato	with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	✓
Dp	20.	JP	05-243379	09-21-1993	Kubota	with Japanese Patent Office's English translation of Abstract;	✓

Examiner Signature	<i>Clinton Bower</i>	Date Considered	12/13/04
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				Filing Date	1/31/2002
				First Named Inventor	Steven Teig et al.
				Group Art Unit	3628 2826
				Examiner Name	Chencinski, S. Bowes
Sheet	3	of	9	Attorney Docket Number	SPLX.P0074

FOREIGN PATENT DOCUMENTS

						and with English translation of the application.	
BB	21.	JP	07-086407	03-31-1995	Miura	with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	✓
BB	22.	JP	09-162279	06-20-1997	Yoshida	with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	✓

NON PATENT LITERATURE DOCUMENTS

Examiner's Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶
BB	23.	Chen, H.F. et al., A Faster Algorithm for Rubber-Band Equivalent Transformation for Planar VLSI Layouts, IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, vol. 15, No. 2, February 1996, pp. 217-227.	
BB	24.	Chip Model with Wiring Cost Map, August 1983, IBM Technical Disclosure Bulletin, vol. 26, issu. 3A, pp. 929-933	
BB	25.	Dayan, T. et al., Layer Assignment for Rubber Band Routing, UCSC-CRI-93-04, January 20, 1993.	
BB	26.	Dayan, T., Rubber-Band Based Topological Router, A Dissertation, UC Santa Cruz, June 1997.	
BB	27.	Dood, P. et al. A Two-Dimensional Topological Compactor with Octagonal Geometry, 28 th ACM/IEEE Design Automation Conference, pp 727-731, July 1991.	

Examiner Signature	<i>Steven Teig</i>	Date Considered	12/17/04
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Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT MAY 18 2004 (use as many sheets as necessary)				Application Number	10/066,095
				Filing Date	1/31/2002
				First Named Inventor	Steven Teig et al.
				Group Art Unit	3628-2328
				Examiner Name	Ghencinski, S. <i>Bawer</i>
Sheet 1 of 1	4	of	9	Attorney Docket Number	SPLX.P0074

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BB	28.	Fujimura, K. et al, Homotopic Shape Deformation.	
BB	29.	Hama, T. et al., Curvilinear Detailed Routing Algorithm and its Extension to Wire-Spreading and Wire-Fattening.	
BB	30.	Hama, T. et al., Topological Routing Path Search Algorithm with Incremental Routability Test, IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, vol. 18, No. 2, February 1999, pp. 142-150.	
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BB	32.	Lim, A. et al, A Fast Algorithm To Test Planar Topological Routability, Technical Report 94-012, pp. 1-16.	
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BB	36.	NN71091316, Use of Relatively Diagonal And Rectangular Wiring Planes n Multilayer Packages, September 1971, IBM Technical Disclosure Bulletin, Vol. No. 14, Issue No. 4, pp. 1316-1317.	
BB ✓	37.	Staepelaere, D. et al., Geometric Transformations for a Rubber-Band Sketch, A Thesis for a Master of Science in Computer Engineering, UCSC, September 1992.	
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BB ✓	40.	Wei-Ming Dai, W. et al., Routability of a Rubber-Band Sketch. 28 th ACM-IEEE Design Automation Conference, 1991. pp. 45-65.	
BB ✓	41.	Xing, Z. et al., A Minimum Cost Path Search Algorithm Through Tile Obstacles, slide presentation.	
DD ✓	42.	Xing, Z. et al., Shortest Path Search Using Tiles and Piecewise Linear Cost Propagation, IEEE, 2002, pp.145-158.	

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				Group Art Unit	3628 2826
				Examiner Name	Gencinski, S. Brown
				Attorney Docket Number	SPLX.P0074

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BB ✓ 43.	Xu, A More Efficient Distance Vector Routing Algorithm, UCSC-CRL-96-18, March 1997.
BB ✓ 44.	Yu, M.-F. et al., Fast and Incremental Routability Check of a Topological Routing Using a Cut-Based Encoding, UCSC-CRL-97-07, April 14, 1997.
BB ✓ 45.	Yu, M.-F. et al, Interchangeable Pin Routing with Application to Package Layout, UCSC-CRL-96-10, April 25, 1996.
BB ✓ 46.	Yu, M.-F. et al., Pin Assignment and Routing on a Single-Layer Pin Grid Array, UCSC-CRL-95-15, February 24, 1995.
BB ✓ 47.	Yu, M.-F. et al., Planar Interchangeable 2-Terminal Routing, UCSC-CRL-95-49, October 19, 1995.
BB ✓ 48.	Yu, M.-F. et al., Single-Layer Fanout Routing and Routability Analysis for Ball Grid Arrays, UCSC-CRL-95-18, April 25, 1995.
BB ✓ 49.	Ahuja, R. et al., Faster Algorithms for the Shortest Path Problem, Journal of the Association for Computing Machinery, vol. 37, No. 2, April 1990, pp. 213-223.
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BB ✓ 51.	Alexander, M. et al., Placement and Routing for Performance-Oriented FPGA Layout, VLSI Design, Vol. 7, No. 1, 1998.
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BB ✓ 53.	Bagga, J. et al., Internal, External, and Mixed Visibility Edges of Polygons.
BB ✓ 54.	Berger, B. et al., Nearly Optimal Algorithms and Bounds for Multilayer Channel Routing, Journal of the Association for Computing Machinery, pp. 500-542, March 1995.
BB ✓ 55.	Brady, L. et al., Channel Routing on a 60° Grid, extended abstract, pp.926-931.
BB ✓ 56.	Carothers, K., A Method of Measuring Nets Routability for MCM's General Area Routing Problems, 1999, pp. 186-192.
BB ✓ 57.	Chen, D-S. et al., A Wire-Length Minimization Algorithm for Single-Layer Layouts

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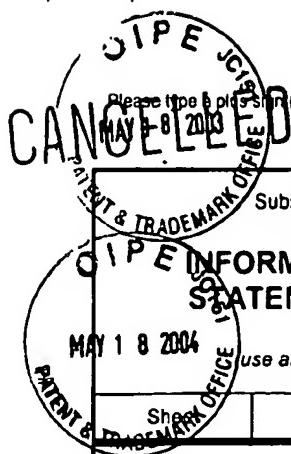
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BB ✓	58.	Chen et al., Optimal Algorithms for Bubble Sort Based Non-Manhattan Channel Routing, May 1994, Computer-Aided Design of Integrated Circuits and Systems, IEEE Transactions Volume: 13 Issues, pp. 603-609.			
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Examiner Signature	<i>Barbara Bower</i>	Date Considered	12/17/04
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Substitute for form 1449A/PTO PTIPE INFORMATION DISCLOSURE STATEMENT BY APPLICANT MAY 18 2004 (use as many sheets as necessary)				Application Number	10/066,095
				Filing Date	1/31/2002
				First Named Inventor	Steven Teig et al.
				Group Art Unit	3628 2825
				Examiner Name	Chencinski, S. <i>Bauer</i>
Sheets	7	of	9	Attorney Docket Number	SPLX.P0074

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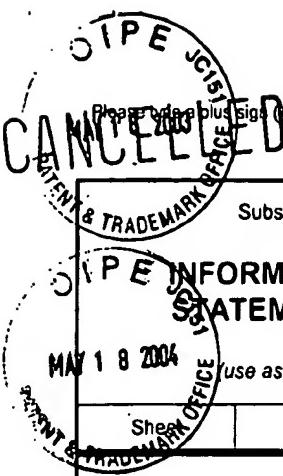
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Examiner Signature	<i>Arthur Bauer</i>	Date Considered	12/13/04
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Substitute for form 1449A/PTO 1449A INFORMATION DISCLOSURE STATEMENT BY APPLICANT MAY 18 2004 (use as many sheets as necessary)				Application Number	10/066,095
Sheet	8	of	9	Filing Date	1/31/2002
				First Named Inventor	Steven Teig et al.
				Group Art Unit	9628 2828
				Examiner Name	Chencinski, S. Brown
				Attorney Docket Number	SPLX.P0074

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Examiner Signature	<i>John Brown</i>	Date Considered	12/13/04
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet

9

of

9

Application Number

10/066,095

Filing Date

1/31/2002

First Named Inventor

Steven Teig et al.

Group Art Unit

3628

2926

Examiner Name

Ghencinski, S.

Dover

Attorney Docket Number

SPLX.P0074

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Examiner Signature	<i>Ruthen Lauer</i>	Date Considered	12/13/04
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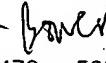
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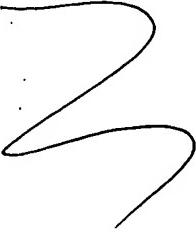
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Stylesheet Version v18.0

Title of Invention	Method and apparatus for routing groups of paths						
Application Number:	10/066095 						
Confirmation Number:	6009						
First Named Applicant:	Steven Teig						
Attorney Docket Number:	SPLX.P0074						
Art Unit:	3628-2825						
Examiner:	SIEGFRIED E. CHENCINSKI 						
Search string:	(4615011 or 4782193 or 5633479 or 5634093 or 5635736 or 6128767 or 6219823 or 6226560 or 6262487 or 6295634 or 6436804 or 6490713 or 6546540 or 6645842 or 4673966 or 4855929 or 5360948 or 5375069 or 5532934 or 5578840 or 5618744 or 5636125 or 5637920 or 5650653 or 5657242 or 5659484 or 5663891 or 5717600 or 5723908 or 5742086 or 5757089 or 5757656 or 5777360 or 5811863 or 5822214 or 5838583 or 5859449 or 5889329 or 5889677 or 5898597 or 5914887 or 5973376 or 5980093 or 6035108 or 6038383 or 6058254 or 6067409 or 6068662 or 6088519 or 6111756 or 20020104061 or 20020100009 or 20020107711 or 20020182844 or 20030005399 or 20030188281 or 20010003843 or 20020174413 or 20030025205 or 20030121017).pn.						
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16	2	4782193	1988-11-01	Linsker			
16	3	5633479	1997-05-27	Hirano			
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16	5	5635736	1997-06-03	Funaki et al.			
16	6	6128767	2000-10-03	Chapman			

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	49	6088519	2000-07-11	Koford
V	50	6111756	2000-08-29	Moresco

US Published Applications

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BA	1	20020104061	2001-11-30	Xing et al.	A1		
	2	20020100009	2002-07-25	Xing et al.	A1		
	3	20020107711	2002-08-08	Xing et al.	A1		
	4	20020182844	2002-12-05	Igarashi et al.	A1		
	5	20030005399	2003-01-02	Igarashi et al.	A1		
	6	20030188281	2003-10-02	Xing	A1		
	7	20010003843	2001-06-14	Scepanovic et al.	A1		
	8	20020174413	2002-11-21	Tanaka	A1		
	9	20030025205	2003-02-06	Shively	A1		
	10	20030121017	2003-06-26	Andreev et al.	A1		

Signature

Examiner Name	Date
<i>Markon Brown</i>	12/13/04



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Examiner:	SIEGERIED E. CHENCINSKI (owner)						
Search string:	(6123736 or 6155725 or 6166441 or 6175950 or 6209123 or 6216252 or 6219832 or 6230306 or 6247167 or 6253363 or 6260179 or 6289495 or 6292929 or 6301686 or 6324674 or 6324675 or 6327693 or 6327694 or 6330707 or 6378121 or 6385758 or 6401234 or 6405358 or 6407434 or 6412097 or 6412102 or 6463575 or 6473891 or 6519751 or 6526555 or 6543043 or 6557145 or 6567967 or 6586281 or 6665852).pn.						
US Patent Documents							
Note: Applicant is not required to submit a paper copy of cited US Patent Documents							
init	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass
B8	1	6123736	2000-09-26	Pavsic et al.			
1	2	6155725	2000-12-05	Scepanovic et al.			
	3	6166441	2000-12-26	Geryk			
	4	6175950	2001-01-16	Scepanovic et al.	B1		
	5	6209123	2001-03-27	Maziasz et al.	B1		
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	21	6385758	2002-05-07	Kikuchi et al.	B1
	22	6401234	2002-06-04	Alpert et al.	B1
	23	6405358	2002-06-11	Nuber	B1
	24	6407434	2002-06-18	Rostoker et al.	B1
	25	6412097	2002-06-25	Kikuchi et al.	B1
	26	6412102	2002-06-25	Andreev et al.	B1
	27	6463575	2002-10-08	Takahashi	B1
	28	6473891	2002-10-29	Shively	B1
	29	6519751	2003-02-11	Sriram et al.	B2
	30	6526555	2003-02-25	Teig et al.	B1
	31	6543043	2003-04-01	Wang et al.	B1
	32	6557145	2003-04-29	Boyle et al.	B2
	33	6567967	2003-05-20	Greidinger et al.	B2
V	34	6586281	2003-07-01	Gabara et al.	B1
	35	6665852	2003-12-16	Xing et al.	B2

Signature

Examiner Name	Date
<i>John Brown</i>	12/13/04